CLAIMS:

1. Device for near field optical recording, information being represented by marks in a track on a record carrier (11),
the device comprising
- a head (22) including a lens to be positioned by a lens actuator at a near field distance from a surface of the record carrier for generating a scanning spot on the track, and
- an air gap controller (65) for controlling an air gap between the lens and the surface, which air gap controller has an approach mode for bringing the lens from a remote distance to the near field distance by
- providing an increasing periodical excitation signal to the lens actuator for generating a sequence of approach instants at which the lens approaches the surface, the lens at the approach instants having substantially zero velocity in a direction perpendicular to the surface, and the sequence of approach instants bringing the lens subsequently closer to the surface, and
- switching the air gap controller (65) to a closed loop mode when the lens is within the near field distance (55) at one of the approach instants.

2. Device as claimed in claim 1, wherein the increasing periodical excitation signal comprises a sinusoidal signal.

3. Device as claimed in claim 1 or 2, wherein the increasing periodical excitation signal comprises a periodical signal of increasing amplitude.

4. Device as claimed in claim 1 or 2, wherein the increasing periodical excitation signal comprises a ramp component.

5. Device as claimed in claim 1, wherein the increasing periodical excitation signal comprises a low-pass filtered staircase component.

6. Device as claimed in claim 1, wherein the air gap controller (65) comprises a reference generator (80) for, in a hand-over mode, providing a reference near field distance changing from a first target near field distance to a second, lower target near field distance via a transfer function.

7. Device as claimed in claim 6, wherein the reference generator is for providing reference values to a controller unit (101,120) based on a two degree of freedom control technique in said hand-over mode.

8. Pull-in method for bringing a lens from a remote distance to a near field distance from a surface of a record carrier (11) for use in near field optical recording, information being represented by marks in a track on the record carrier to be scanned via a head (22) including the lens, the method comprising
- providing an increasing periodical excitation to a lens actuator for generating a sequence of approach instants at which the lens approaches the surface, the lens at the approach instants having substantially zero velocity in a direction perpendicular to the surface, and the sequence of approach instants bringing the lens subsequently closer to the surface,
- detecting when the lens is within the near field distance at one of the approach instants, and subsequently
- switching an air gap servo system to a closed loop mode.

9. Method as claimed in claim 8, wherein the increasing periodical excitation comprises a sinusoidal signal of increasing amplitude.